

AMENDMENTS

In The Claims:

Please enter an amendment to add the following claims:

153. (New) A method for adjusting the atmosphere within a chamber containing respiring produce, the method comprising:

- (a) maintaining the oxygen concentration in the chamber atmosphere substantially at a predetermined oxygen setpoint; and
- (b) removing carbon dioxide from the chamber atmosphere substantially at a predetermined rate, the predetermined rate having been selected such that the carbon dioxide concentration within the chamber atmosphere does not substantially exceed a predetermined amount.

B1 154. (New) A method according to Claim 153, wherein the oxygen concentration in the chamber atmosphere is maintained substantially at the setpoint by (i) monitoring the oxygen concentration in the chamber and following detection that the oxygen concentration has fallen below the setpoint, or below a tolerance about the setpoint (ii) admitting into the chamber ambient air so that the amount of oxygen in the chamber increases; and (iii) causing or permitting chamber atmosphere to exit the chamber.

155. (New) A method according to Claim 154, wherein said predetermined carbon dioxide removal rate is calculated from a formula that produces a result substantially equal to the result produced by a calculation in accordance with the following formula:

$$a_{CO_2} = r_{CO_2} - \frac{0.79 p_{CO_2} r_{O_2}}{(0.21 - p_{O_2}) - 0.21 p_{CO_2}}$$

where a_{CO_2} is the carbon dioxide removal rate; p_{O_2} is the oxygen setpoint, expressed as a proportion; p_{CO_2} is the desired carbon dioxide concentration within the chamber, expressed as a proportion; r_{O_2} is the respiration rate; and r_{CO_2} is the rate of production of carbon dioxide through respiration.

156. (New) A method according to Claim 154, wherein said carbon dioxide removal is effected by contacting a quantity of carbon dioxide absorbing material with the chamber atmosphere and wherein said carbon dioxide absorbing material is contained in at least one carbon dioxide transmissible container, said at least one carbon dioxide transmissible container being selected so that the rate of carbon dioxide transmission into said at least one carbon dioxide transmissible container is substantially equal to said predetermined carbon dioxide removal rate.

157. (New) A method according to Claim 153, wherein said predetermined carbon dioxide removal rate is calculated from a formula that produces a result substantially equal to the result produced by a calculation in accordance with the following formula:

$$a_{CO_2} = r_{CO_2} - \frac{0.79 p_{CO_2} r_{O_2}}{(0.21 - p_{O_2}) - 0.21 p_{CO_2}}$$

Bl where a_{CO_2} is the carbon dioxide removal rate; p_{O_2} is the oxygen setpoint, expressed as a proportion; p_{CO_2} is the desired carbon dioxide concentration within the chamber, expressed as a proportion; r_{O_2} is the respiration rate; and r_{CO_2} is the rate of production of carbon dioxide through respiration.

158. (New) A method according to Claim 157, wherein said carbon dioxide removal is effected by contacting a quantity of carbon dioxide absorbing material with the chamber atmosphere and wherein said carbon dioxide absorbing material is contained in at least one carbon dioxide transmissible container, said at least one carbon dioxide transmissible container being selected so that the rate of carbon dioxide transmission into said at least one carbon dioxide transmissible container is substantially equal to said predetermined carbon dioxide removal rate.

159. (New) A method according to Claim 153, wherein said carbon dioxide removal is effected by contacting a quantity of carbon dioxide absorbing material with the chamber atmosphere and wherein said carbon dioxide absorbing material is contained in at least one carbon dioxide transmissible container, said at least one carbon dioxide transmissible container being selected so that the rate of carbon dioxide transmission into said at least one carbon dioxide transmissible container is substantially equal to said predetermined carbon dioxide removal rate.

B/ 160. (New) A method for adjusting the atmosphere within a chamber containing respiring produce, the method comprising the steps of maintaining the oxygen concentration in the chamber atmosphere substantially at a predetermined oxygen setpoint, predicting the carbon dioxide concentration in the chamber that would be expected to result in the absence of any adjustment to the carbon dioxide concentration, and independently adjusting the carbon dioxide concentration in the chamber by determining the difference between the predicted level of carbon dioxide in the chamber and a desired carbon dioxide equilibrium concentration and installing in the chamber one or more containers of hydrated lime of predetermined carbon dioxide transmissibility whereby carbon dioxide is absorbed into the containers so that the concentration of carbon dioxide in the chamber reaches the desired equilibrium point.
